

Work Order ID 102554

May-30-13 3:23:14 PM

102554

Page 1

Item ID: 646.3711

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Clip

Start Date: 5/30/13

Start Qty: 10.00

2019X

10

10

Required Date: 6/10/13

Req'd Qty: 12.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: MCS

Date: 13-05-30

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
646.3700	A	0.00							
110		0.00							
110									
Waterjet	Memo	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg								
6061-063	Dwg Rev: _____								
	Prog Rev: _____								
	2-Deburr if necessary								
120	Grain Direction!								
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
QC	Memo	0.00							
Quality Control									

20 0 Jm.3-6-3

20 0 Jm.3-6-3

Work Order ID 102554

102554

Page 2

May-30-13 3:23:14 PM

Item ID: 646.3711

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Clip

Stop

NS2

Start Date: 5/30/13

Start Qty: 12.00

12

Cust Item ID:

Required Date: 6/10/13

Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC8- Inspect parts - second check

0.00

AS
27
38

20

130

QC

Quality Control

13.63

140

Form as per dwg

0.00

19

140

Brake NC

Brake NC

Memo

0.00

ptb
1304/03

150

QC5- Inspect part completeness to step on W/O

0.00

2
1

19

150

QC

Quality Control

0.00

13.63

DQA: OK Date: 13/06/18QA Closed: OK Date: 13/6/18

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

Work Order:	DISPOSITION			AGAINST DEPARTMENT/PROCESS					
	Rework	Scrap	Use-as-is	Skid-tube	Crosstube	Water Jet	Engineering		
102554	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Thermoforming	Small Fab	Prod. Eng. Coor.	Quality		
20443711	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Machining	Finishing	Rec/Store/Packaging	Other		
13.2225	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Large Fab	Composite	Supplier			

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design				1 part was scrap at the set up		Scrap & destroy	SD		
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material	13/06/03	140	1	R.F. set up was not in place for Part #	Q52042 B3668	No replace	13/06/03	1363	Q52042 13/06/03
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General			
<input type="checkbox"/> Bending	<input checked="" type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Pressure/Forced
<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain	<input checked="" type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Set-up
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Temperature/Cure
<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Weld
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Moved	<input type="checkbox"/> Wrong Stock Pulled
<input type="checkbox"/> Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Positioned Wrong	
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Other
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread		
<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set		
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration		
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence		

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102554

Page 3

May-30-13 3:23:14 PM

Item ID: 646.3711

Accept

N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Clip

Start Date: 5/30/13 Start Qty: 12.00

12

Cust Item ID:

Required Date: 6/10/13 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

160

Outsource4

Outsource process - Anodize

Outsource process-Anodize per QSI017 4.1.10.1

0.00

Memo

0.00

Issue P/O to ATG: 20070

1- Black Anodize as per Dwg 646.3700

2- PRIME AS PER DWG, SEE NOTE #2

Certification of Conformity is required

Col 13/16/03 20

170

170

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

0.00

Memo

0.00

13/5/04 (19)

180

180

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

AS
27
B.6.6

19

Work Order ID 102554

102554

Page 4

May-30-13 3:23:14 PM

Item ID: 646.3711

Accept

N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Clip

Start Date: 5/30/13 Start Qty: 12.00

12

Cust Item ID:

Required Date: 6/10/13 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

210

210

Packaging

Packaging

Identify as per dwg & Stock Location: 51030 0.00

220

220

QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

13/6/10 (MF)
13/6/10 (MF)
13/6/10 (MF)

MF
13/6/10

Picklist Print

May-30-13 3:23:14 PM

Page 1

Work Order ID: 102554

Parent Item: 646.3711

Parent Item Name: Clip

Start Date: 5/30/13

Required Date: 6/10/13

Start Qty: 12.00

Required Qty: 12.00

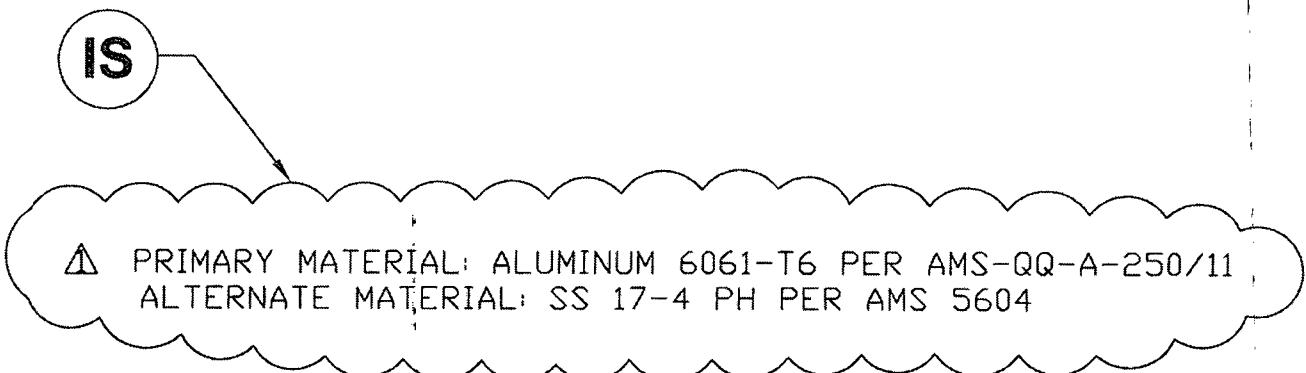
Comments: IPP REV:A 12.11.23 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6S.063 6061-T6 .063 Sheet		Purchased	No			110	sf	259.7025	0.036	0.4547368 0.5		JM13-6-3	

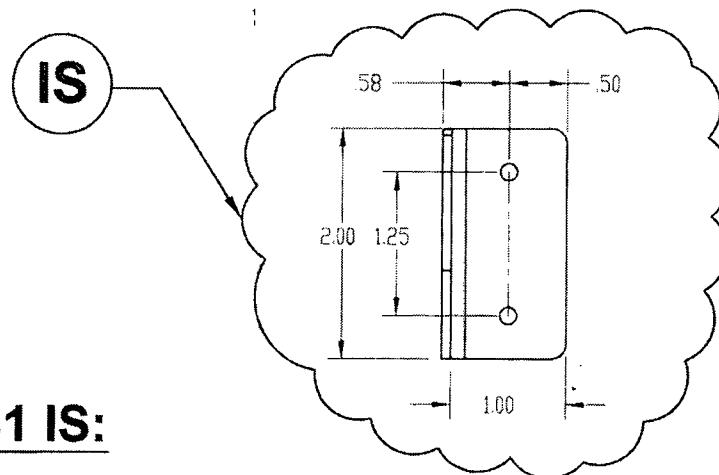
Location	Loc Qty	Loc Code
MAT021	259.7025	
123135	120.2625	
124003	80.15	
125431	59.29	D5431

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03702				SHEET 1 OF 2	
	DWG NO. 646.3700	REV: A	PREPARED BY B. PETERS	DATE: 11/15/12	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.	
DWG TITLE: SHEETMETAL						
APPROVED BY:	ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER		
TRANSACTION CODES (TC) A-ADD C-CREATE R-REVISE D-DELETE	REASON: ADDED ALTERNATE MATERIAL AND REVISED REFERENCE DIMENSIONS				EDR: D-12-010	

SHEET 1, ZONE A2 IS:

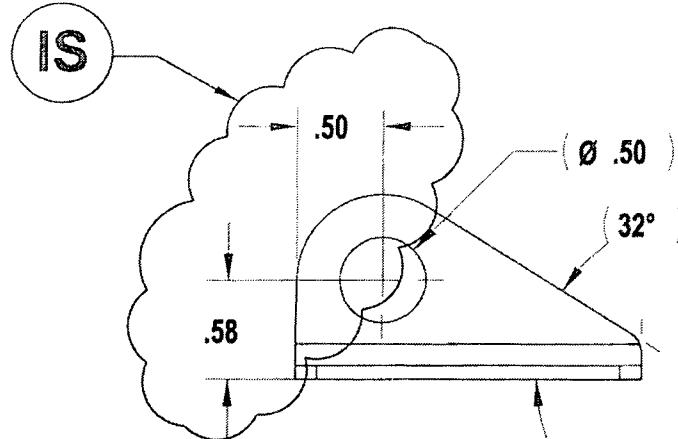


SHEET 7, ZONE B1 IS:

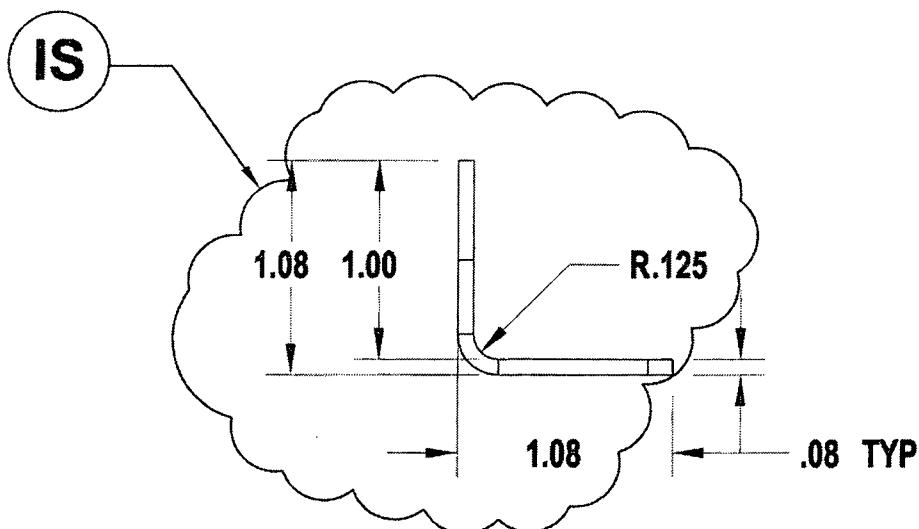


SUBJECT:
 WITH:
 V.O. NUMBER:
 NO. 102 SSY MCL
 13-05-30

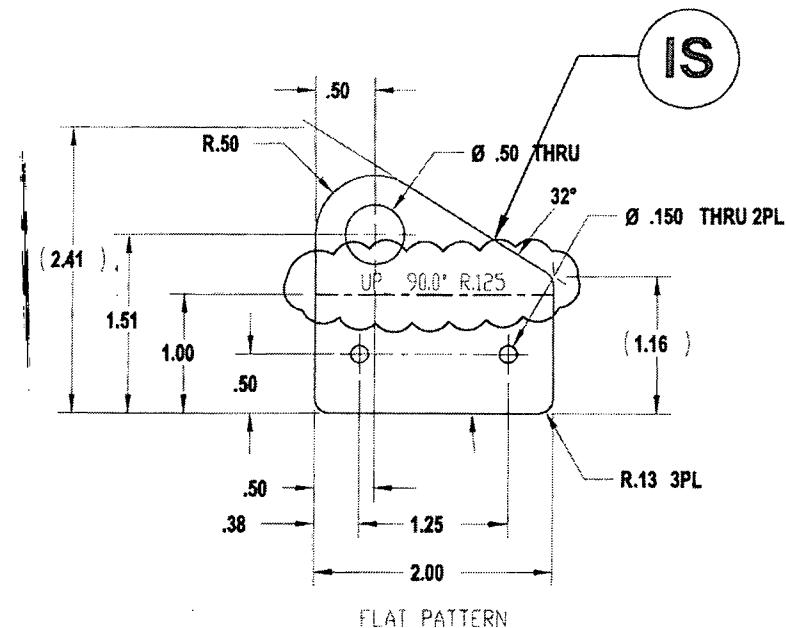
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:				<input type="checkbox"/> RFMS <input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUC <input type="checkbox"/> ICA <input type="checkbox"/> BOM	CHANGE CATEGORY <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO



SHEET 7, ZONE C4 IS:



SHEET 7, ZONE D1 IS:



SHEET 7, ZONE B7 IS:

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
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102554

NOTES.

⚠ MATERIAL: ALUMINUM 6061-T6 PER AMS-QQ-A-250/1

⚠ FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK

CARDINAL 480-50 PFTREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N

⚠ MATERIAL: 17-4 PH AMS 5604, CONDITION H900

⚠ FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N

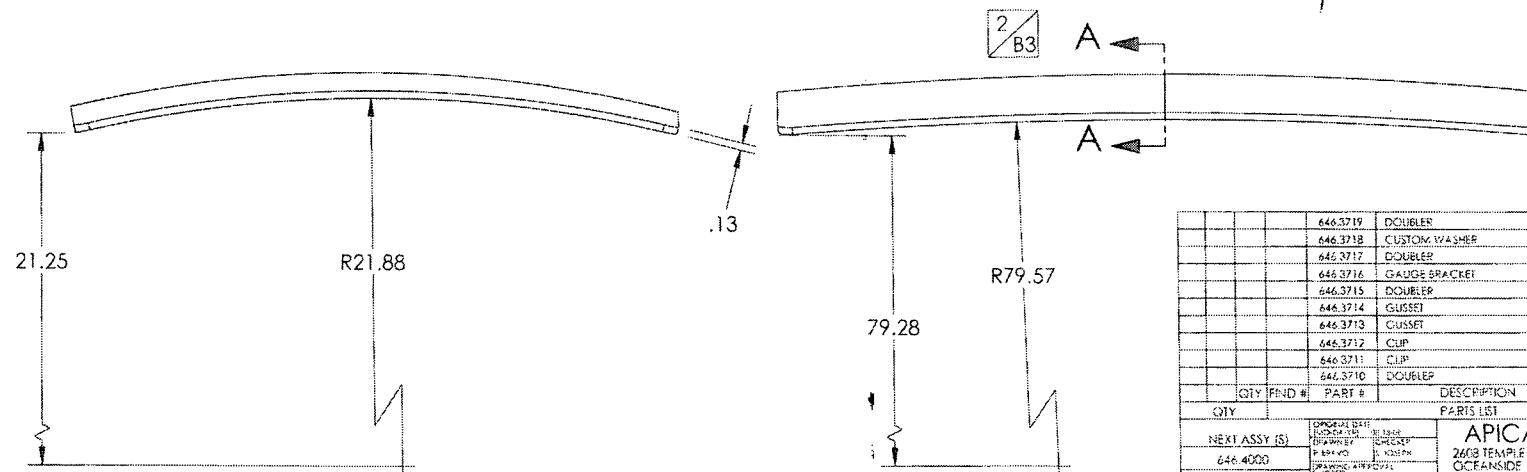
5. DEBURR AND BREAK ALL SHARP EDGES

6. IDENTIFY IAW MPP-120

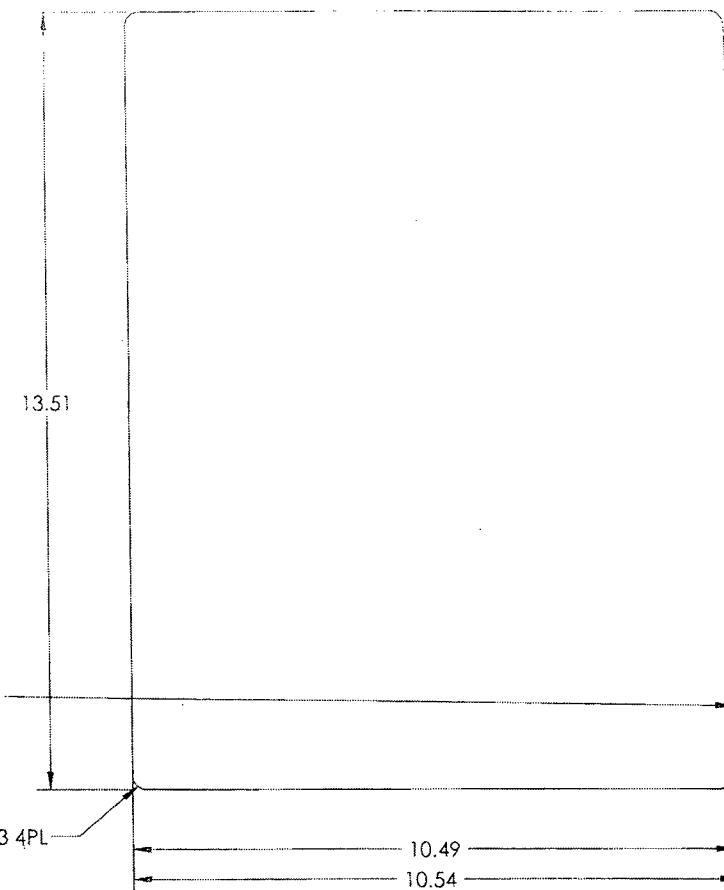
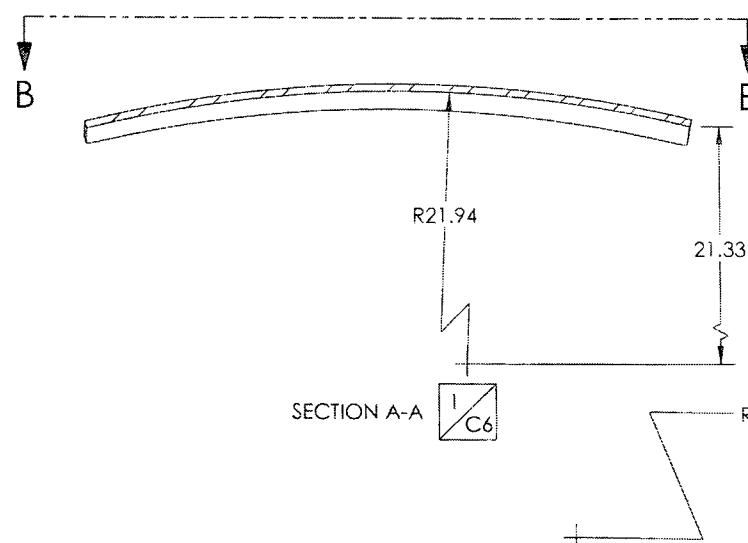
646,3710

UNINCORPORATED ECN(s)

0370



102554



REVISIONS	1	LOCATION OR LOGO	APICAL INDUSTRIES
DRAWN BY	CH. C. PEP	SPRINKLER	1000
SHRINK	0	DESIGNER APPROVAL	S. JOSEPH
CONTRACTING		DATE	2/20/08
UNLESS OTHERWISE SPECIFIED		TIME	10:00 AM
ALL DIMENSIONS IN INCHES		PLATE DECIMALS	2
CONTRACTOR		10.0000	10.0000
10.0000 x 2"		SCALE	NONE
		REV	A

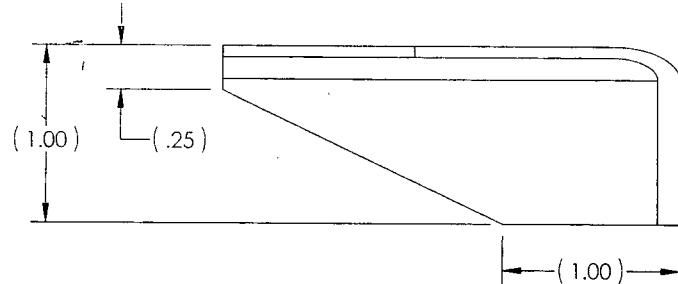
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA 92056-3512 (760)724-5300

SHEETMETAL

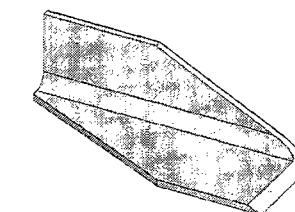
6 07/08/08 646.3700 2 OF 5

10255Y

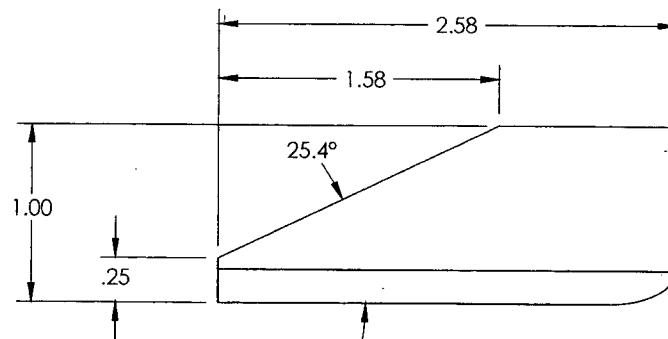
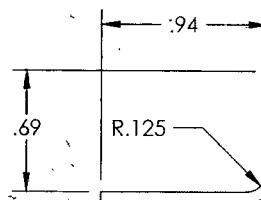
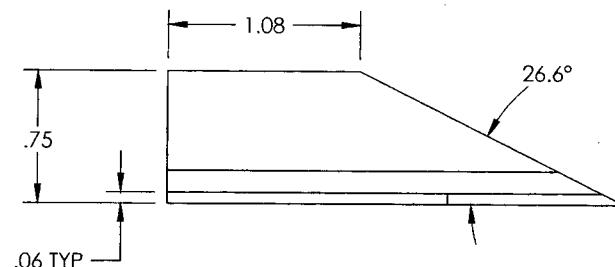
1.00
.25
1.00



Grain
Direction

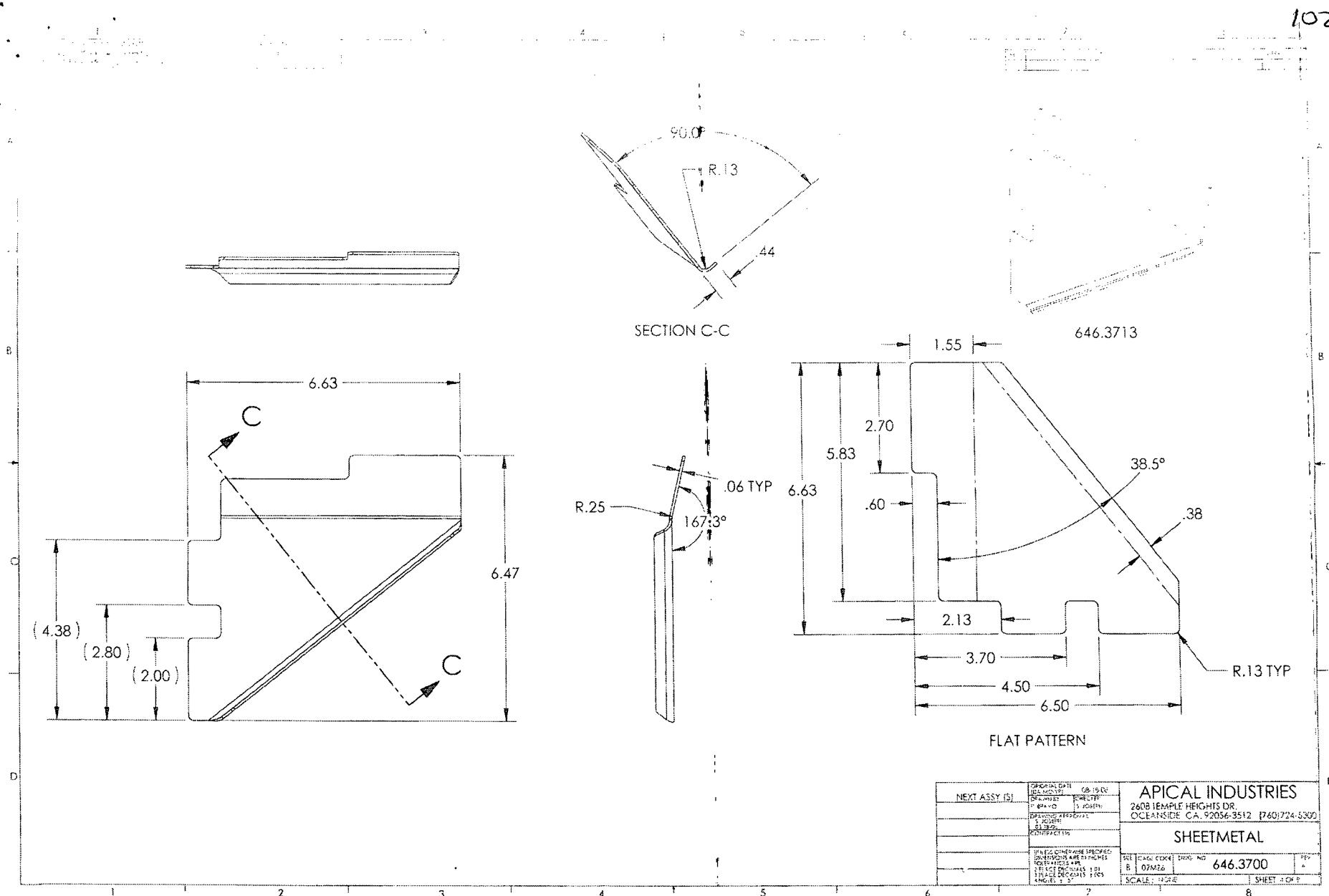


646.3711 SHOWN
646.3712 OPPOSITE

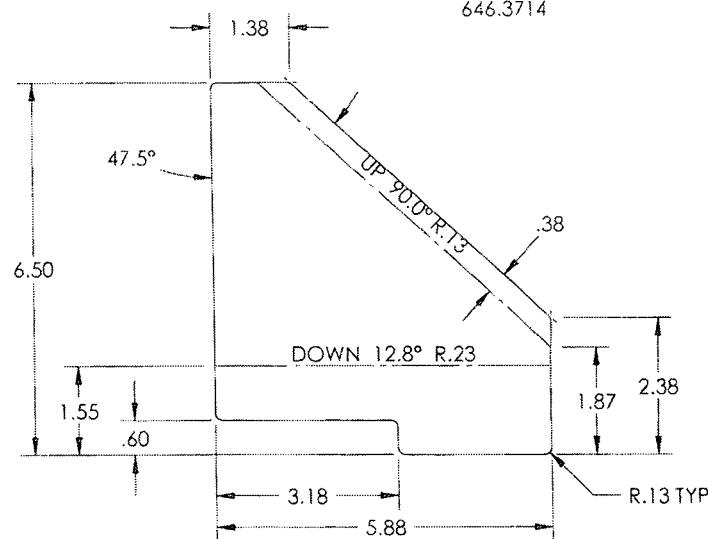
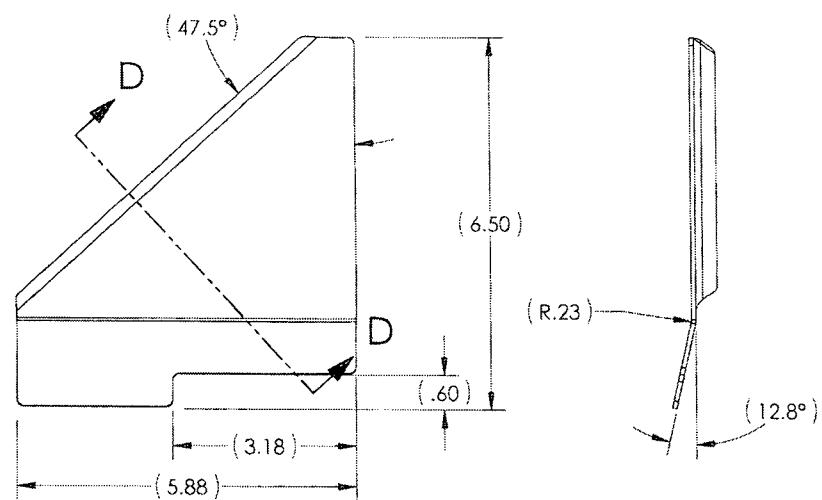
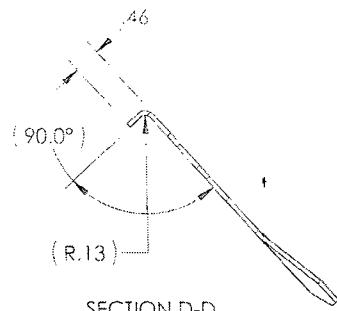


NEXT ASSY (S)		ORIGINAL DATE 08-18-08
DRAWN BY P. BRAVO		CHECKED S. JOSEPH
DRAWING APPROVAL DR-1208		CONTRACT NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm 1^\circ$		
SIZE	CAGE CO. #	DWG. NO.
B	07MZ6	646.3700
SCALE: NONE		REV. A
SHEET 3 OF 9		

102554

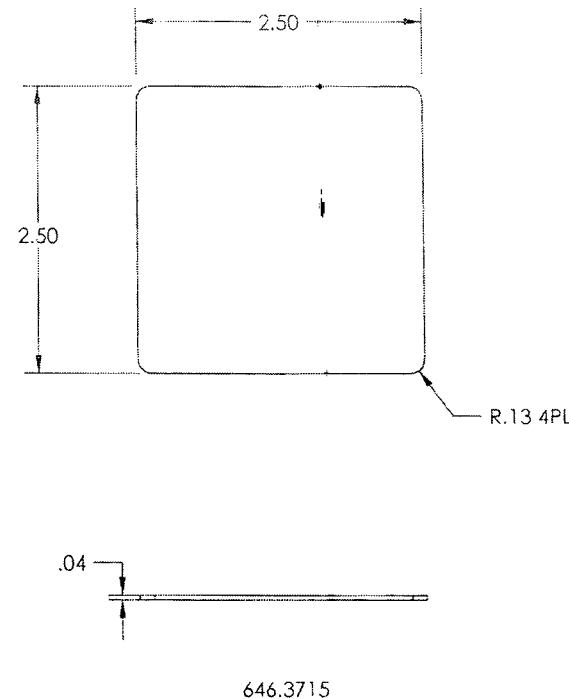


102554



APICAL INDUSTRIES	2609 TEMPLE HEIGHTS DR.
	OCEANSIDE, CA 92056-3512 (760)724-5300
SHEETMETAL	
UNLESS OTHERWISE SPECIFIED CONSTRUCTION IS AS FOLLOWS:	
UPRIGHTS 1/2" X 1" X .035 LAP Joints 1/2" X 1" X .035 ANGLES 1/2" X 1" X .035 WALLS 1/2" X 1" X .035 ANGLES 1/2" X 1" X .035	
W1	Z-07C09
W2	07M16
B	646.3700
SCALE: NONE	
SHEET 5 OF 9	

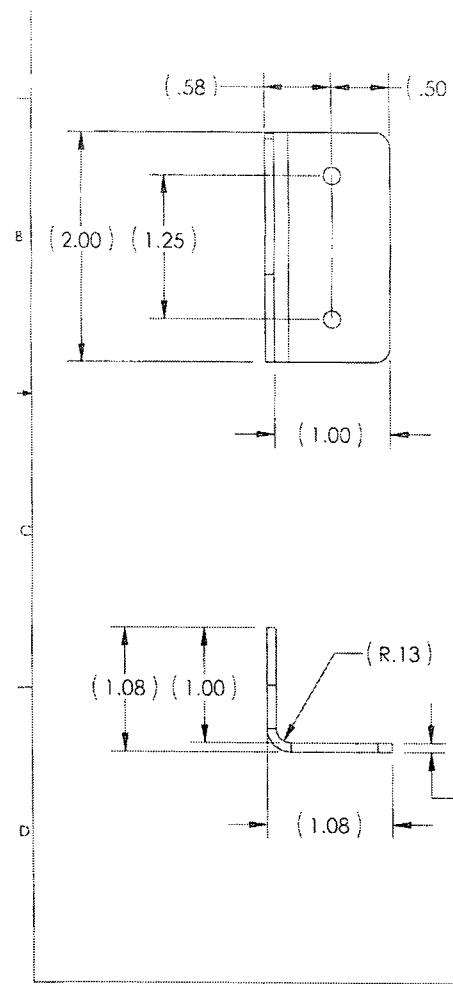
102554



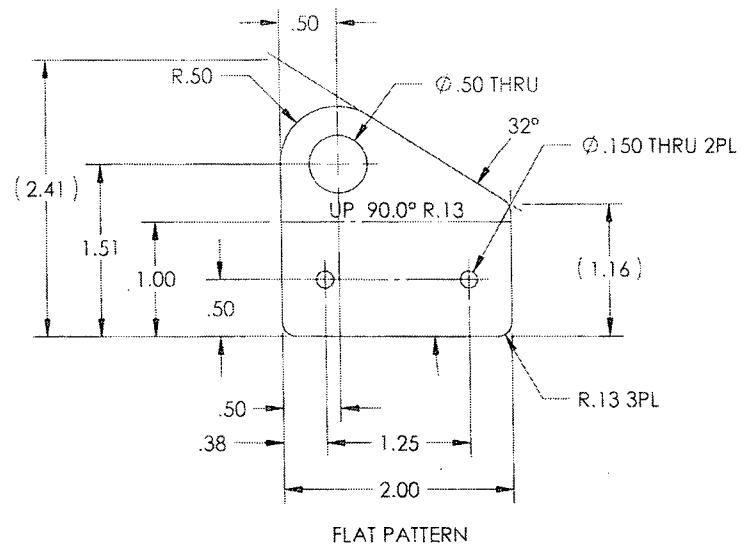
646.3715

NEXT ASSY (S)		ORIGINATOR	02-B02	APICAL INDUSTRIES	
DATA SHEET NO.		02-B02	02-B02	2608 TEMPLE HEIGHTS DR.	
P. DRAWN BY		D. ROSEPH	D. ROSEPH	OCEANSIDE, CA 92056-3512 (760)724-5320	
DRAWING APPROVAL		S. JACOB		CONTRACT NO.	
DATE		CONTRACT NO.		SHEETMETAL	
DATE		SHEET		646.3700	
TOLERANCES		SHEET		A	
3 PLACES		646.3700		SHEET 6 OF 9	
ANGLES		SCALE: NONE			

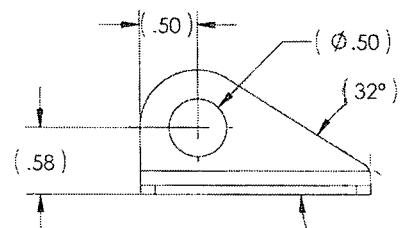
102554



646.3716

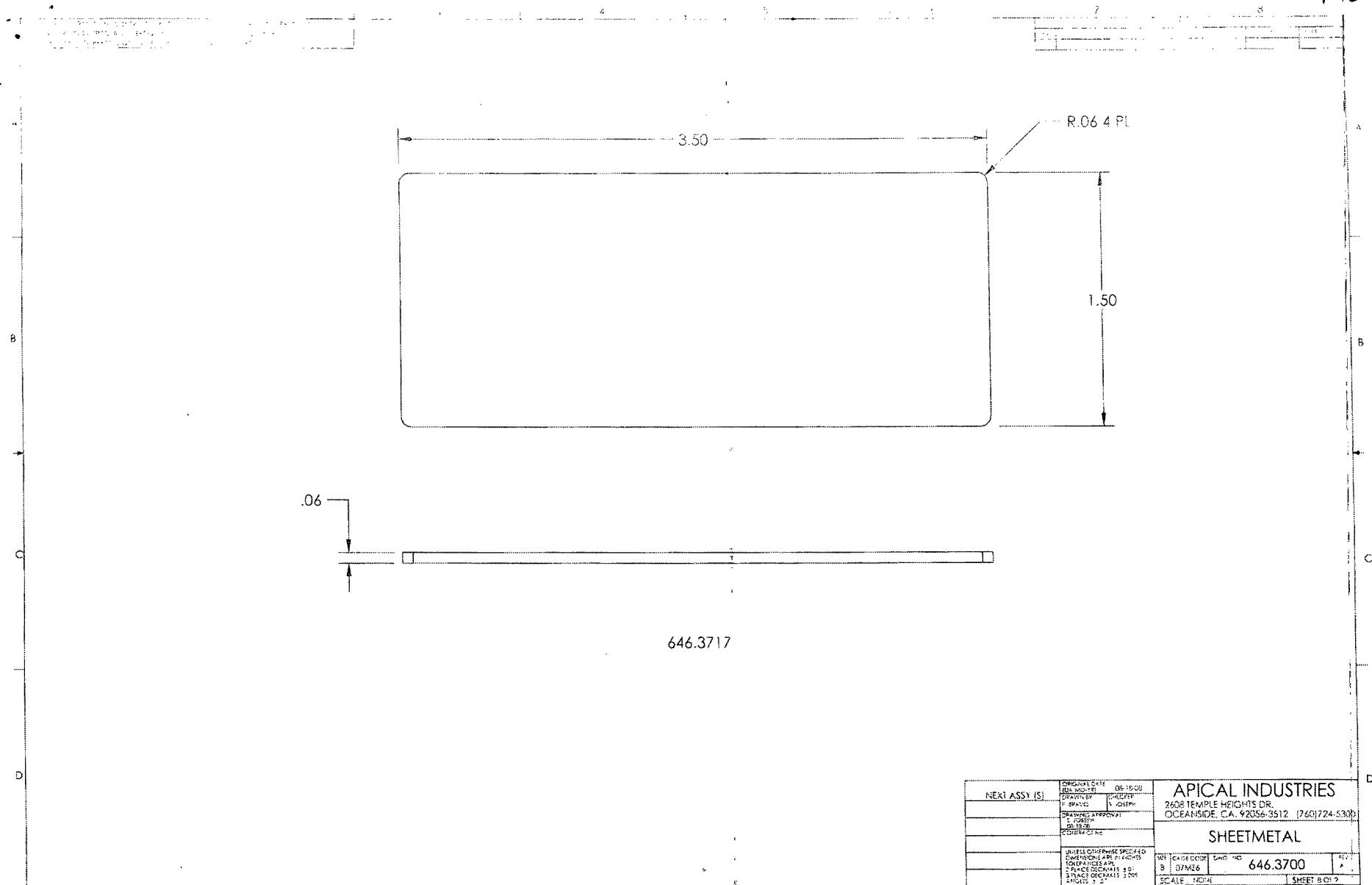


FLAT PATTERN

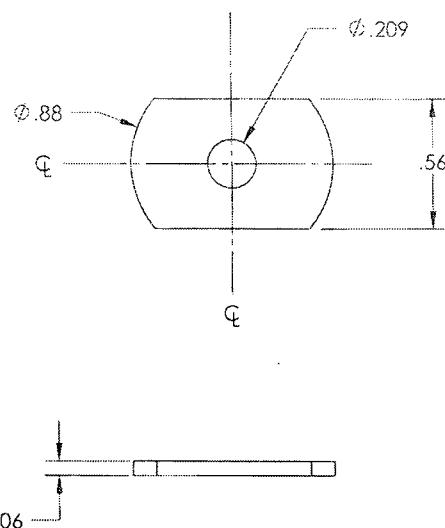


NEXT ASSY IS:	SP2000-001	00-100	APICAL INDUSTRIES
DRAWN BY:	CHUCK	2608 TEMPLE HEIGHTS DR.	OCEANSIDE, CA. 92056-3512 (760)724-5300
REVISED BY:	CHUCK		
DESIGNER:	CHUCK		
CHIEF ENGINEER:	CHUCK		
APPROVED:	CHUCK		
DATE:	CHUCK		
UNLESS OTHERWISE SPECIFIED: 1. ALL DIMENSIONS ARE IN INCHES 2. TOLERANCES ARE IN THOUSANDS OF AN INCH 3. PLACE DECIMALS 1000'S 4. ANGLES IN DEGREES			
RE: 646.3700	DRAWN BY:	CHUCK	646.3700
DATE: 08/08/00	REV. NO.:	1	SCALE: 1:1
TIME: 08:00	ANGLE: 32°	2	Sheet 1 of 1
SP: 08/08/00	SP: 08/08/00	3	
AP: 08/08/00	AP: 08/08/00	4	
PP: 08/08/00	PP: 08/08/00	5	
PP: 08/08/00	PP: 08/08/00	6	
PP: 08/08/00	PP: 08/08/00	7	
PP: 08/08/00	PP: 08/08/00	8	

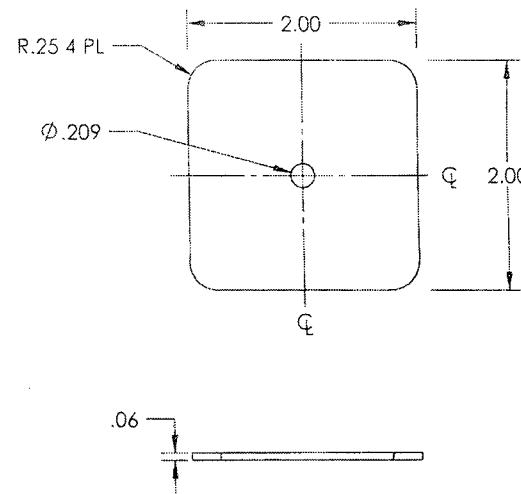
10255Y



10254



646.3718



646.3719

NEXT ASSY (S)		ISSUED DATE	05-02-02
		DESIGNER	J. JOSEPH
		REVIEWER	P. FRANC
		APPROVAL	05-02-02
		DATE	05-02-02
		COMPLETED	
UNLESS OTHERWISE SPECIFIED TOLERANCES ARE IN HUNDREDTHS OF INCHES 1. SPOT CHECKS ARE MADE 2. SPOT CHECKS ARE MADE ANGLES ± 5°			
REV	EX-0000	DRWG NO	646.3700
	B	07302A	
SCALE: 1:10		1 SHEET 0 OF 0	

APICAL INDUSTRIES
2408 TEMPLE HEIGHTS DR.
OCEANSIDE, CA 92056-3512 (760)724-5300

SHEETMETAL

DART AEROSPACE LTD	Work Order:	102554
Description: Clip	Part Number:	646.3711
Inspection Dwg: FC 46.370 Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

1040

Measured by:	JM	Audited by:	27 R-89	Preliminary Approval:	
Date:	13-8-3	Date:	13-6-5	Date:	

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 62433

Date: 06-Jun-13

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms	Ship Via
Quantity	Description
1 lot	Part: ASST 10 PCS 646.3310 10 PCS 646.3312 10 PCS 646.3313 10 PCS 646.3610 HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 PRIME MIL-P-23377J TYPE I CLASS N Job: 20130348 PO: 19997 Rev: _____ Line: _____
1 lot	Part: ASST 20 PCS 646.3712 20 PCS 646.3716 19 PCS 646.3711 HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 PRIME MIL-P-23377J TYPE I CLASS N 12 PCS D4703-043 BLACK ANODIZE MIL-A-8625 TYPE II CLASS 2 Job: 20130347 PO: 20070 Rev: _____ Line: _____
	Certificate of Conformance



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 62433

Date: 06-Jun-13

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms	Ship Via
Quantity	Description
	<p>A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order.</p> <p>ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY</p> <p>DATE : <u>8/6/13</u></p> <p>CERTIFIED SIGNATURE : <u>M</u></p> <p>RECEIVER SIGNATURE : _____</p>



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO20070**

Purchase Order Date 6/3/2013

PO Print Date 6/6/2013

Page Number 2 of 3

From :
T.G. INDUSTRIES INC.
131 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

VC-ATG001

Contact Name
Vendor Phone 613-446-4544
Vendor Fax 613-446-4556
Vendor Account Nbr

Buyer Chantal Lavoie
Requisition Nbr 10127-2607
Tax Resale Nbr Net 30
Terms CAD
Currency
FOB Destination-Collect

Special Inst: FINISH BLACK ANODIZE PER IAW MIL-A-8625 TYPE III,
CLASS 2, COLOR BLACK

FINISH: PRIME AS PER IAW MIL-P-
23377J TYPE I CLASS N

NOTE: THIS IS A RUSH ORDER
REQUIRED FOR JUNE 6

3 102554

646.3711 CLIP

6/7/2013 19.00 FedEx PI collect \$5.2261

\$99.3

SP13-6-4

Special Inst: FINISH BLACK ANODIZE PER IAW MIL-A-8625 TYPE III,
CLASS 2, COLOR BLACK

FINISH: PRIME AS PER IAW MIL-P-
23377J TYPE I CLASS N

NOTE: THIS IS A RUSH ORDER
REQUIRED FOR JUNE 6

4 99919

647.4611 DEFLECTOR

6/7/2013 5.00 FedEx PI collect \$0.0000

\$0

Special Inst: FINISH BLACK ANODIZE PER IAW MIL-A-8625 TYPE III,
CLASS 2, COLOR BLACK

FINISH: PRIME AS PER IAW MIL-P-
23377J TYPE I CLASS N

No substitution or deviation without
consent.

Certificate of Conformity or Material
Certification required YES NO